DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

Quality Plan

For
Phosphate Management
Bureau of Mining and Minerals Regulation
Division of Water Resource Management

Florida Department of Environmental Protection
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1.0 Signature Page

Plan Coverage: The Quality Plan summarizes the Phosphate Management (Wastewater) quality systems that are used within the Department. The plan covers quality assurance policies, roles and responsibilities for environmental data collection activities, evaluation and use of environmental data produced by laboratories and regulated facilities.

The undersigned have read and understood this Quality Plan, are charged with managing and improving the quality system, and are responsible for ensuring that all staff properly execute the procedures discussed in the plan.

Elsa Potts
Elsa Potts, P.E, Bureau Chief — 2/3/11 Date

Sam Zamani, P.E., Program Administrator — 1/31/11 Date

Vishwas Sathe, Environmental Manager — 1/26/11 Date

Jacquelyn Champion
Jacquelyn Champion, Q.A. Officer — 1/26/11 Date

2.0 Introduction

The DEP Quality Assurance (QA) program involves the implementation of a management system (planning, review, training, and assessment) to ensure that data collection, generation, interpretation, reporting, evaluation and archiving are of sufficient quality to support the programs decisions. The effectiveness of Wastewater's QA program is dependent upon the actions of all DEP staff, from "front line" employees to management, meaning QA is a function distributed throughout our organization. One aspect of the Wastewater program is to ensure that all Wastewater QA activities are carried out according to the commitments made to the Environmental Protection Agency as enumerated in the DEP Quality Management Plan (QMP) (Draft Revision 9/2/08).

The DEP Secretary is committed to implementation of the quality assurance requirements in the QMP and as authorized at 403.0623 F.S. and Chapter 62-160 F.A.C. (the DEP QA Rule). It is the Secretary's intent to carry out these obligations and requirements as detailed in the Department's QA Directive (Draft Revision January 2008).

Wastewater's QA Plan explains both the process and criteria by which the quality system is managed. The plan is utilized as an instrument of internal communication between Tallahassee and Phosphate Management to inform our staff of current and future quality assurance activities. It discusses how specific QA duties are assigned to Tallahassee and Phosphate Management staff. Wastewater will revise their Quality Plan as needed to ensure the consistent application of procedures and criteria for the generation and use of our data. The Quality Plan will also be used as a training document for new staff and as a reference for experienced personnel. The plan and its revisions also serve as an archival record of our formal quality system. Where appropriate, we cite existing internal and external documents, including training manuals, guidance documents, SOPs, Rules, etc.

The elements of Wastewater's Quality Plan are consistent with the Department's Quality Management Plan, Quality Assurance Directive and Quality Assurance Rule (62-160 F.A.C.) and Department Standard Operating Procedures (SOP's). Wastewater's Quality Plan addresses all activities associated with sampling, field testing, lab analysis and data review and interpretation of any type, including those activities associated with database management. Wastewater's plan also discusses how data decisions are made based on data quality assessments.

In order to execute the components of the DEP QA Directive, the Wastewater program has developed a quality system. This document describes the steps we've taken to ensure the scientific and legal defensibility of environmental data we generate or use. It details the process of planning, training, execution, assessment and corrective actions we undertake to ensure that environmental data meets our established quality criteria.

3.0 Policy Statement

It is the Wastewater Programs policy to be strongly committed to sound science and QA practices which will produce environmental data of appropriate quality to be used for permitting, compliance, and enforcement decision making purposes.

Therefore, it's Wastewaters' policy to;

- Use scientifically valid and legally defensible data for decisions affecting permitting, compliance, and enforcement projects that relate to compliance with ground and surface water quality criteria.
- Maintain, update and implement the QA Plan as outlined in this document.
- Manage our Quality Statement to be consistent with the provisions of the Department's Quality Assurance Management Plan.
- Ensure that each individual is properly trained to execute his or her assigned tasks and job functions.
- Implement procedures to evaluate the quality of Phosphate Management output such as water quality data, reports used to make permitting, compliance, and enforcement decisions and any other associated documents used to make sound environmental decisions.
- Implement procedures to assure that the Department has reasonable assurances that QA objectives and criteria specified in this manual will be met.
- Periodically audit the performance and record-keeping practices of Wastewaters' data collection, reporting and management activities.
- Perform a yearly systematic assessment of Phosphate Management QA activities, documenting corrective actions with the findings submitted to the Phosphate Managements Quality Assurance Officer and the Standards and Assessment Section.

The Wastewater Program along with its managers and staff will assure that there are sufficient QA activities conducted by the program to provide reasonable confidence that all environmental data generated are scientifically valid, representative, and legally defensible. Data quality is the responsibility of all managers and staff who are directly or indirectly involved in its collection and interpretation. Senior managers are responsible for assuring that adequate resources are available to implement Wastewaters' quality assurance plan.

All employees of the DEP are held to high professional ethical standards in the performance of their duties. All employees are required to read, understand and sign an 'Ethics Statement' attesting to their commitment to honesty and integrity in performance of their duties. In addition, all employees are required to attend an annual ethics training class. Improper, unethical or illegal actions will be dealt with according to the published Administrative Directives of the Florida Department of Environmental Protection.

4.0 Organization and Responsibilities

The Wastewater programs responsibilities reside in Tallahassee, six district offices within the Division of Water Resource Management and the Bureau of Mining and Minerals Regulation Phosphate Management Program.

4.1 Tallahassee Data Management Organization and Function

Tallahassee's data management responsibilities are to receive, document, and enter all the Federal NPDES (surface water discharge) Discharge Monitoring Reports (DMRs) into EPAs Permit Compliance System (PCS) for the domestic and industrial wastewater programs. Groundwater monitoring data that is associated with NPDES facilities is also entered into the Divisions Wastewater Facility Regulation (WAFR) Database. Tallahassee also enters Non-NPDES (land application) DMRs and groundwater monitoring data for the Central and Northwest District offices.

4.2 Tallahassee Data Entry Responsibilities

DMRs must be received in Tallahassee by the 28th day following the end of the reporting month where they are then stamped as received, entered into the DMR Log, and reviewed to determine if any of the following information is incorrect (NPDES Only) before continuing on with data entry: incorrect permit number, monitoring period, outfalls, monitoring location codes, dates, duplicate DMRs and parameters that do not match the DMR. If a DMR needs minor corrections, the Data Entry Operator (DEO) will try and correct the problem themselves prior to data entry. If the problem can't be fixed in Tallahassee the DMR is returned to Phosphate Management for follow-up with the facility to make the corrections and to resubmit the DMR to Tallahassee for re-entry.

Once the DMRs have been entered into PCS they go through an electronic data validation process to determine if numeric violations exist and to flag them in the data system. All violations that are flagged are then reviewed by staff for data entry mistakes and to verify that they are in fact real violations.

At the beginning of each week, a Permit Compliance System (PCS) Weekly Report is run on the previous weeks entered DMR data to review and verify whether any of the listed E-90 violations are valid violations (E-90 is a term used by the Wastewater Program to identify DMR effluent limit numeric violations). The DEO(s) then pull the DMRs with the flagged violations and route them to the

Compliance Coordinator to verify whether a violation is correct, a DMR format error, or a data entry error. If the Compliance Coordinator determines that the violation is a data entry error, it is re-routed back to the DEO for correction and then sent on to the Phosphate Management office for filing.

DMRs that are flagged as having missing data, parameters codes, or data in the wrong columns are handled by the Data Control Specialist (DCS). DMRs determined by the DCS to have missing parameter codes are forward on to the PCS State Coordinator for review and correction. DMRs that are missing data or have data in the wrong columns are forwarded back to Phosphate Management for follow-up with the facilities for correction. Once the missing data has been retrieved or the DMR format corrected it is routed back to the DCS in Tallahassee for entry into PCS and returned back to Phosphate Management for filing.

4.3 Phosphate Management Data Management Organization and Function

Phosphate Management reviews DMR data for their facilities. DMRs that are deemed correct and complete are filed on site.

4.4 Phosphate Management Data Entry Responsibilities

All data interpretation and validation is done manually by Phosphate Management staff the time of permit renewal or during routine inspections to determine if there are DMR format problems or numeric effluent violations. DMR format problems identified by Phosphate Management staff will work with facilities to get it corrected and re-submitted for data entry. If numeric violations are identified, enforcement may or may not be initiated depending on the frequency and severity of the violations.

4.4.1 Phosphate Management Wastewater Program Data Review Process

Any and all data received in the Phosphate Management office whether from their own sampling efforts, DMRs, or permit renewal applications needs to be reviewed for data quality prior to making permit and/or compliance and enforcement decisions. Review of the data is to determine its reliability and usability for determining compliance with permits, enforcement orders and/or rules. Quality Assurance Officers will periodically coordinate and participate in evaluation and interpretation of program data and provide oversight to staff to ensure that their QA objectives meet department requirements.

4.4.2 Wastewater Managers Data Responsibilities

Managers and supervisors are responsible for ensuring that data collection activities within their programs are conducted in accordance with the Department policies and comply with the directions established by the Phosphate

Managements QA Officer and the Standards and Assessment Section (SAS). Key responsibilities of managers are to:

- Establish planning policies to ensure that appropriate QA procedures are reflected in program and operating plans.
- With the assistance of the QA Officer, encourage the development of Data Quality Objectives (DQO's) for data collection activities and review.
- Support and reinforce local quality system implementation and assessment.
- Take corrective action on deficiencies identified by the QA Officer during local assessments and overviews.
- Ensure that all staff receive appropriate QA training by the Phosphate Management QA Officer and/or SAS staff.
- Ensure that all staff follow established QA responsibilities and evaluate each staffs effectiveness during annual performance evaluations.

4.4.3 Phosphate Management QA Officers Responsibilities to the Wastewater Program

The Phosphate Management QA Officers responsibilities are to train staff in the proper review, documentation, and handling of data to ensure that follow-up activities are pursued in a manner consistent with department policy and QA objectives. Other key responsibilities of the QA Officers for the Wastewater program are to:

- Conduct routine Performance Audit Inspections (PAI) of external data generators (contract and/or permitted facility laboratories).
- Ensures that corrective actions are implemented for deficiencies identified during routine PAI inspections.
- Conduct internal audits of the Departments sample handling and collection activities.
- Assist program staff in the development of a Quality System that would benefit the programs individual data quality objective for sampling and data review and interpretation.
- Document all program QA activities including training, internal and external audits and corrective actions, and provides this information to the DEP Standards and Assessment Section on a periodic basis.
- Attend meetings scheduled by the Standards and Assessment Section to keep abreast of QA issues affecting the Department and relay the information down to the appropriate Phosphate Management staff.

- Work with Wastewater staff on a routine basis to develop and maintain an effective QA program.
- Respond to staffs quality assurance issues, problems, and requests for guidance and/or technical direction in an effective and timely manner.

5.0 Phosphate Management Sample Collection and Data Interpretation Activities

The Phosphate Management program is responsible for conducting their own compliance and/or enforcement sampling activities in support of the program. This can be as simple as collecting fecal coliform samples or collecting samples as part of a full Fifth Year Inspection (FYI5) at the time of permit renewal (FYI5 is used to evaluate whether NPDES facilities are compliant with current permit limitations and has not caused an impact to the flora and fauna in the receiving waters of the state).

Phosphate Management staff must be proficient in sample collection and handling techniques and in data interpretation when the results are available for review. It is the responsibility of the Phosphate Management QA Officer to ensure that these requirements are met and guidelines are in place to evaluate how well staff are complying with and meeting these objectives.

Each program has developed their own DQOs in order to meet individual program and technical needs as established for the programs they support. These requirements are as follows:

5.1 Phosphate Management Quality Assurance Objectives

Phosphate Management is dedicated to providing sound scientific data for the purposes of decision making for NPDES permitting, compliance and enforcement decisions and other tasks that may be required.

5.2 Phosphate Management Technical Support Responsibilities

Technical Support staff will support the programs compliance needs by providing technical assistance in sample collection activities and data interpretation when needed. This will reinforce and enhance the effectiveness of the programs QA objectives in providing accurate and reliable data to support the programs data needs. Specific responsibilities of the Technical Support staff are as follows:

- Technical Support staff will provide the Wastewater program with technical assistance in areas that relate to sample handling, collection, and data interpretation.

- Identify the Wastewater programs QA needs, resolve problems, and answer requests for guidance or assistance.
- Conduct and/or participate in technical program audits.
- Report data quality problems to appropriate Wastewater program managers and supervisors.
- Conduct QA performance audits of internal and external sampling data when requested.
- Randomly review data generated from external permitting, compliance and enforcement activities.
- Implement corrective actions as necessary and as required by the Phosphate Managements Quality Assurance Plan.

6.0 Tallahassee Sample Collection and Data Interpretation Activities

Tallahassee's Central Laboratory and Biology Section annually assist Phosphate Management by providing chemical and biological analytical support for compliance, enforcement, and permitting purposes.

6.1 Chemistry support is as follows;

- Ship sample kits to Phosphate Management with the appropriate containers and preservatives (if requested) to support the chemistry needs of the Wastewater Programs compliance objectives.
- Analyze all samples received following appropriate analytical methods and procedures for analysis, data interpretation, and reporting.
- Provide technical support to Phosphate Management for sample collection, handling, and interpretation as needed.
- Follow all department policies, procedures, and QO's for chemical analysis as established by the Bureau of Laboratory's Standard Operating Procedures: http://www.floridadep.org/labs/library/progplan.htm

6.2 Biology support is as follows;

- Ship sample kits to Phosphate Management with the appropriate containers and preservatives (if requested) to support the biological needs of the Wastewater Programs compliance objectives.
- Analyze, and interpret all biological data using all methods and procedures developed and established by the Tallahassee biology section.
- Compile, interpret, and provide a written report summarizing the results of all the chemical and biological data collected as part of the FY15 and FY13 inspection program.

- Provide technical support to Phosphate Management for sample collection, handling, and interpretation as needed.
- Follow all Department policies, procedures, and QO's for biological assessments as established by the Bureau of Laboratory's Standard Operating Procedures: http://www.floridadep.org/labs/library/progplan.htm

7.0 Data Quality Components

It is the Wastewater programs objective to review and evaluate the completeness, correctness, and conformance of facility self-monitoring and internally generated data against specific Data Quality Objectives. By incorporating these concepts, our program staff can routinely carry out and generate a work product that is scientific defensibility and adheres to the Departments rules, policies, and procedures.

7.1 Data Quality Objectives

The DQOs of the Wastewater program are to have staff evaluate data using criteria established by the program, the Phosphate Management QA Officer, and the Department for consistent review and interpretation of data and to implement corrective actions as necessary to remedy deficiencies identified during the review and evaluation process. The following Data Quality Objectives (DQOs) are designed to ensure that submitted data meets or exceeds the threshold for scientific defensibility and adherence to Department rules and policies for the Wastewater program:

- Department approved Standard Operating Procedures (SOPs) are followed by all permitted facilities and Department staff conducting field sampling and laboratory analysis.
- Laboratory analysis is performed by facilities certified by the Department of Health and accredited under the National Environmental Laboratory Accreditation Conference (NELAC).
- NPDES monitoring data is processed, verified, and validated through a WAFR data validation process.
- Non-NPDES monitoring data is manually evaluated and verified against the programs DQO's.
- Corrective actions are taken as necessary to ensure data meets DQO and established Department criteria.
- Data is stored in an electronic format that is easily retrieved for review and verification.

7.2 Data Collection, Verification, and Validation

Data processing includes collection, verification, and validation. Precautions shall be taken each time data is recorded, calculated, verified, and transcribed to prevent the introduction of errors and the loss of information. Within the Wastewater Program, data collection is almost exclusively performed by the regulated entity and less so by the department. The verification process for NPDES monitoring data has been automated using an electronic validation process. Non-NPDES monitoring data must go through a manual validation process to verify and validate that the data is complete and accurate.

Data that is manually verified must go through a series of validation steps to ensure that the data was generated correctly.

- Correct and complete transcription of the DMR data.
- Methods used by the lab meet the analytical requirements of the program.
- Spike and duplicate are routinely run to verify repeatability.
- Method Detection Limits (MDL) and Practical Quantitation Limits (PQL) are met to meet established permit limitations.
- Laboratory meets established holding times.
- Laboratory certification by the Dept. of Health and NELAC.
- Blank requirements are routinely followed.
- All other established criteria and standards are met.

7.3 Corrective Actions

Procedures are in place to insure that immediate and effective corrective action are taken when a laboratory's data quality falls outside established data quality objectives, data acceptance criteria, or quality assurance requirements. This also applies to internal data generated by the Phosphate Management technical support staff.

The corrective actions process keeps management informed when corrective actions are necessary for either externally or internally generated data. The corrective actions process relates to the overall QA management scheme in terms of who is responsible for taking corrective actions when corrective actions are required, and who follows-up to verify that corrective actions have been taken and that they have produced the desired results. This is usually accomplished through the routine inspection process or enforcement process if necessary for externally generated data, and through coordination with the QAO for internally generated data. If the corrective actions process initiated by Phosphate Management isn't sufficient enough to warrant the expected outcome, the SES may be summoned to assist in reaching an amicable solution.

8.0 Training

All staff are properly trained to perform their duties as well as new staff as they are hired. Supervisors and QAO's will periodically assess and verify that staff performance conforms with the policies and procedures established by the Wastewater program and the Department.

8.1 QA Training Activities and Procedures

- Training for staff in specific QA functions as outlined by the program and QA Officer.
- Annual ethics policy course with QA Coordinator
- Maintain, update, and provide specific training materials to staff on routine program requirements and QA activities.
- Provide routine refresher courses to staff on updated QA information and procedures.
- Annually evaluate the effectiveness of the QA Officers training for program staff.

8.2 Internal Audits

Annual Audits by the SES section and the QA Officer will provide valuable and objective feedback concerning the effectiveness of the Wastewater Program's quality system, and may identify areas that need improvement. However, successful implementation of the Wastewater Programs QA Program relies heavily on the submission of valid data which begins with proper sampling, handling, and data analysis and interpretation.

9.0 Report Compilation

Provide the SES section with information regarding the Wastewater Programs ongoing QA efforts and to compile and present all the results to the Secretary and EPA in an annual report.